10/519160

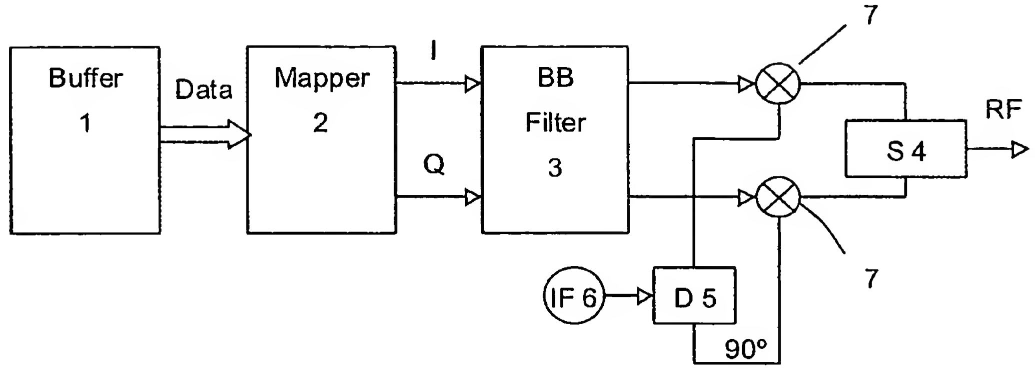
Buffer
1
Data
Mapper
2
I
Q
BB
Filter
3
7
7
S 4
RF
IF 6
D 5
90°

Fig. 1

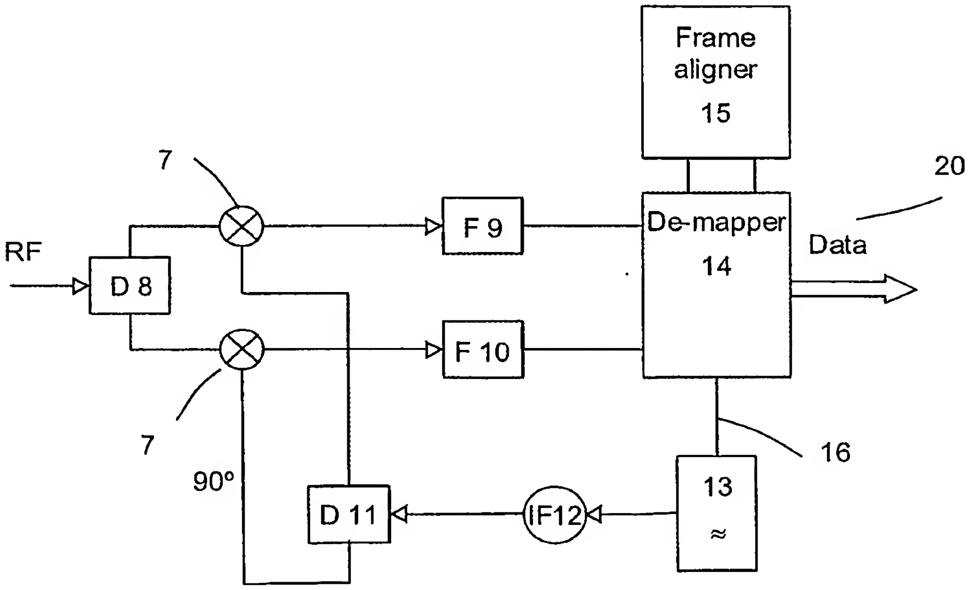
Frame
aligner
15
7
20
RF
D 8
F 9
De-mapper
14
Data
F 10
7
90°
16
13
≈
D 11
IF12

Fig. 2

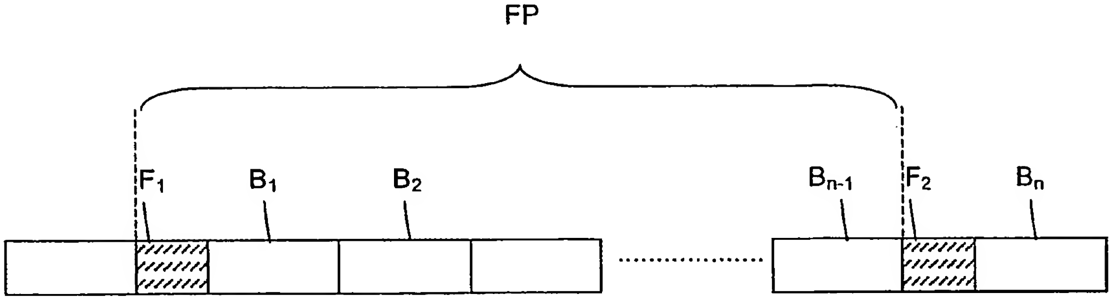
FP
F1
B1
B2
Bn-1
F2
Bn

Fig. 3

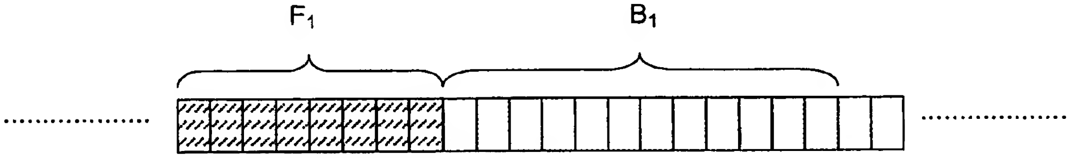

Fig. 4

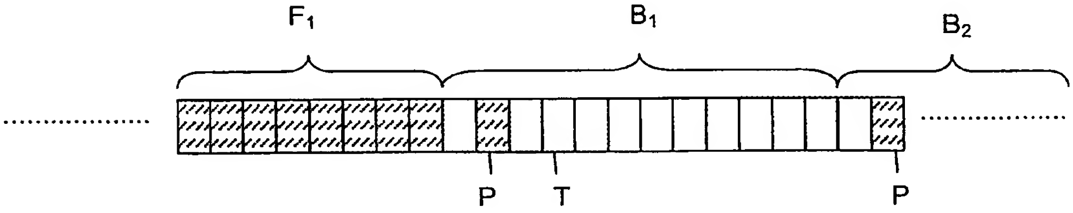

Fig. 4'

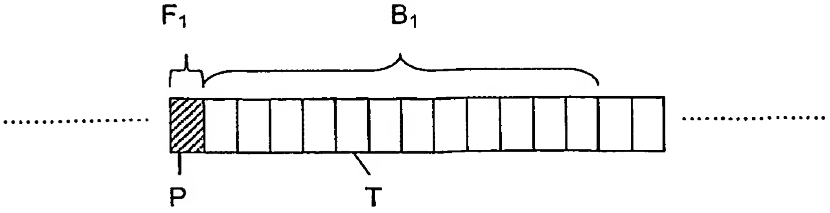

Fig. 4''

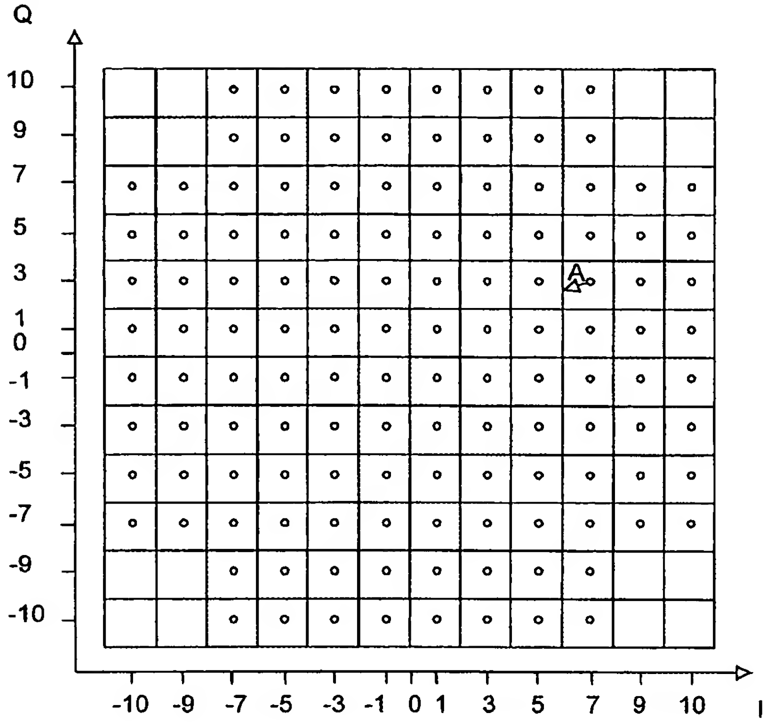
Q
10
9
7
5
3
1
0
-1
-3
-5
-7
-9
-10
A
-10
-9
-7
-5
-3
-1
0
1
3
5
7
9
10
I

Fig. 5 -
128 QAM

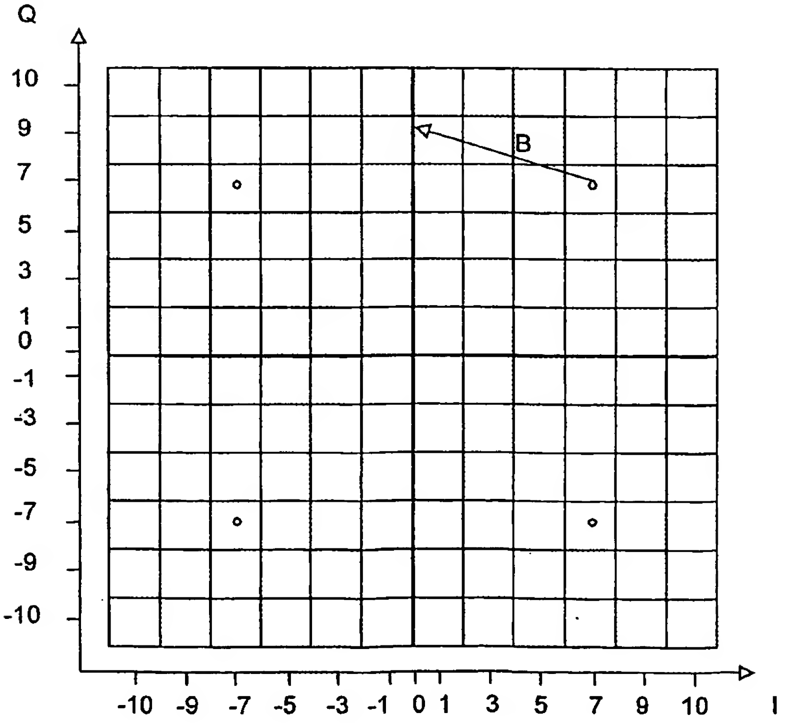
Q
10
9
7
5
3
1
0
-1
-3
-5
-7
-9
-10
B
-10
-9
-7
-5
-3
-1
0
1
3
5
7
9
10
I

Fig. 6 -
QAM

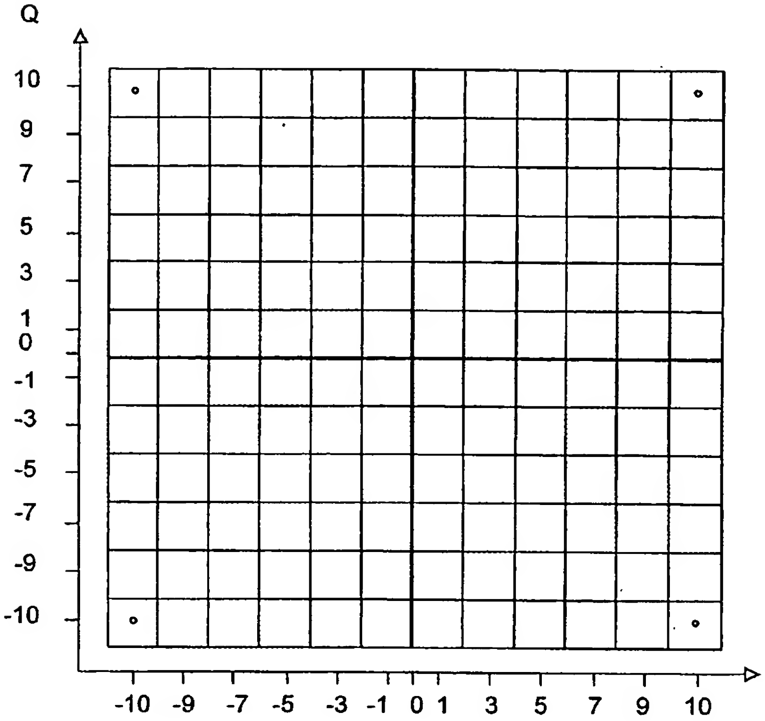

Fig. 7 - 4-QAM

sequnce order	n-1	n	n+1	n+...	n+t	n+t+1
modu-lation	4	128	128	...	4	128
data bit	2	7	7	....	2	7

Fig. 8

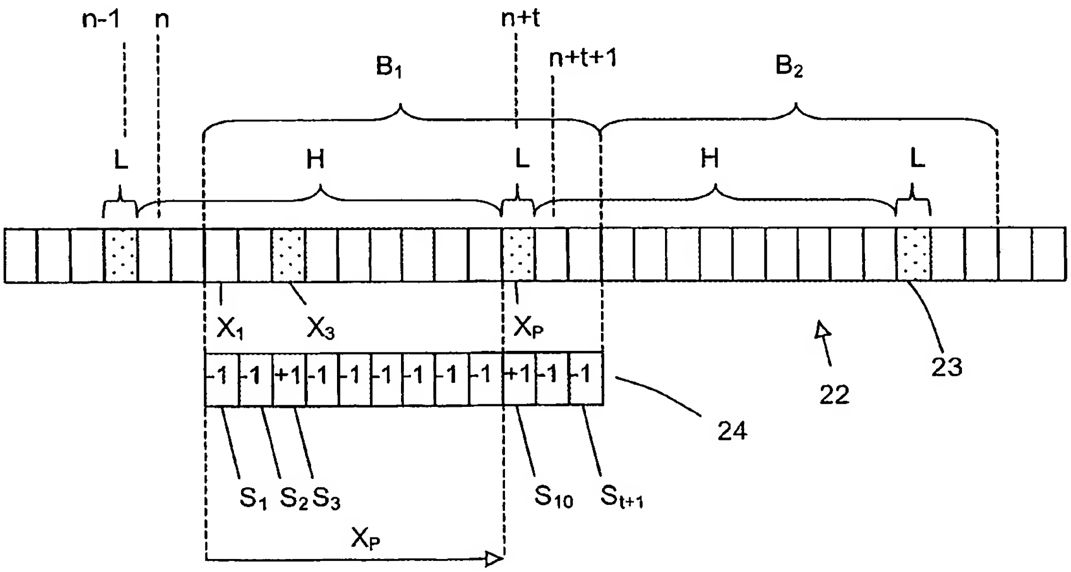
n-1
n
n+t
n+t+1
B1
B2
L
H
L
H
L
X1
X3
XP
-1
-1
+1
-1
-1
-1
-1
-1
-1
+1
-1
-1
22
23
24
S1
S2
S3
S10
St+1
XP

Fig. 9

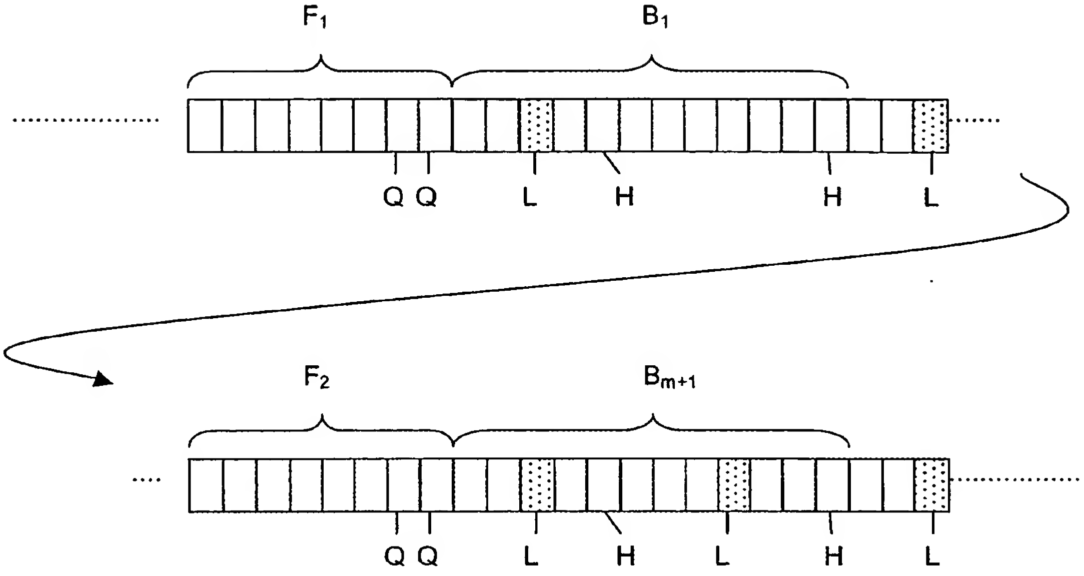
F1
B1
Q
Q
L
H
H
L
F2
Bm+1
Q
Q
L
H
L
H
L

Fig. 10

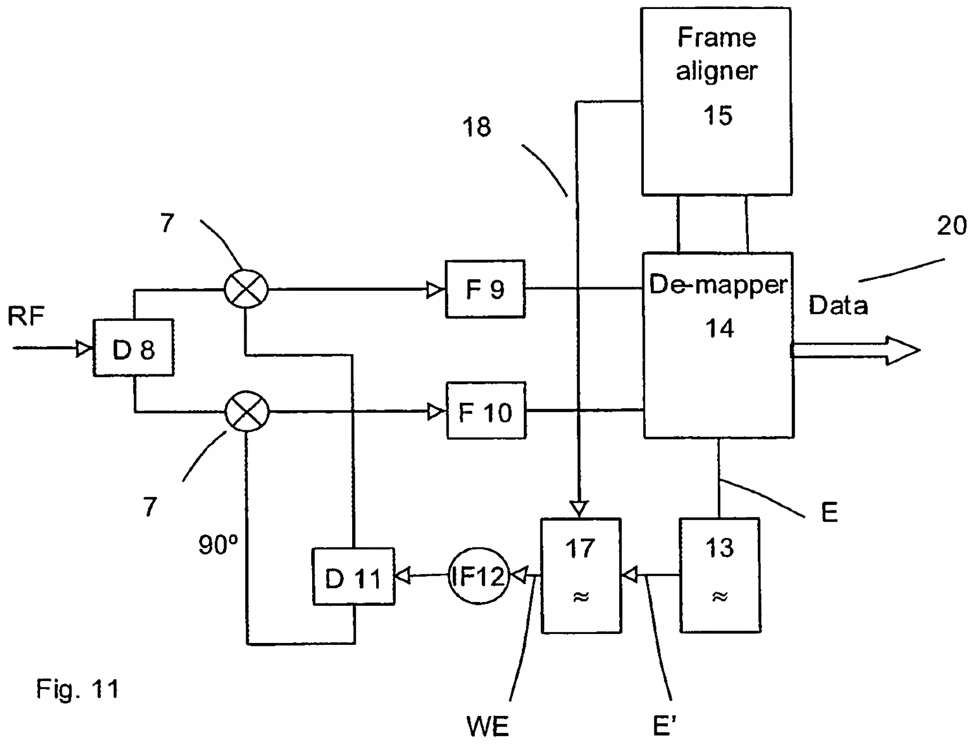
Frame aligner
15
18
7
20
RF
D 8
F 9
De-mapper
14
Data
F 10
7
E
90°
D 11
IF12
17
≈
13
≈
WE
E'

Fig. 11

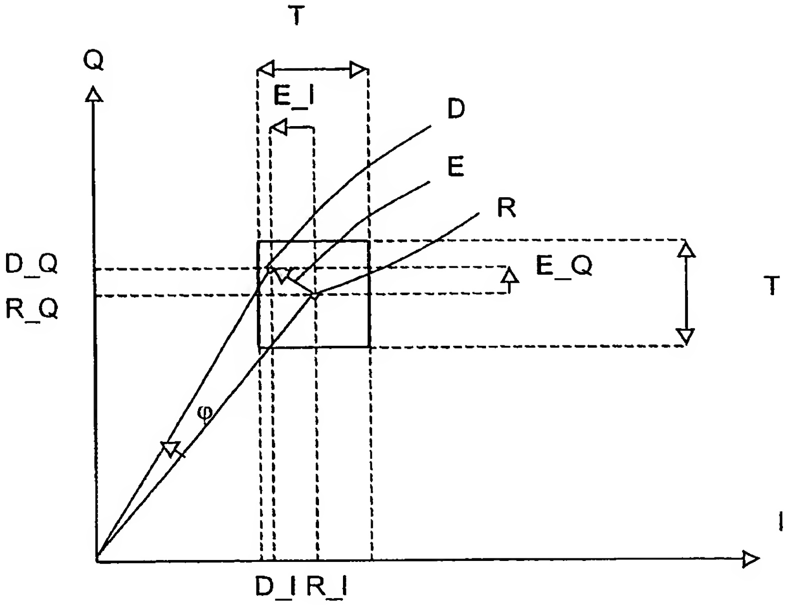
T
Q
E_I
D
E
R
D_Q
R_Q
E_Q
T
φ
I
D_I
R_I

Fig. 12

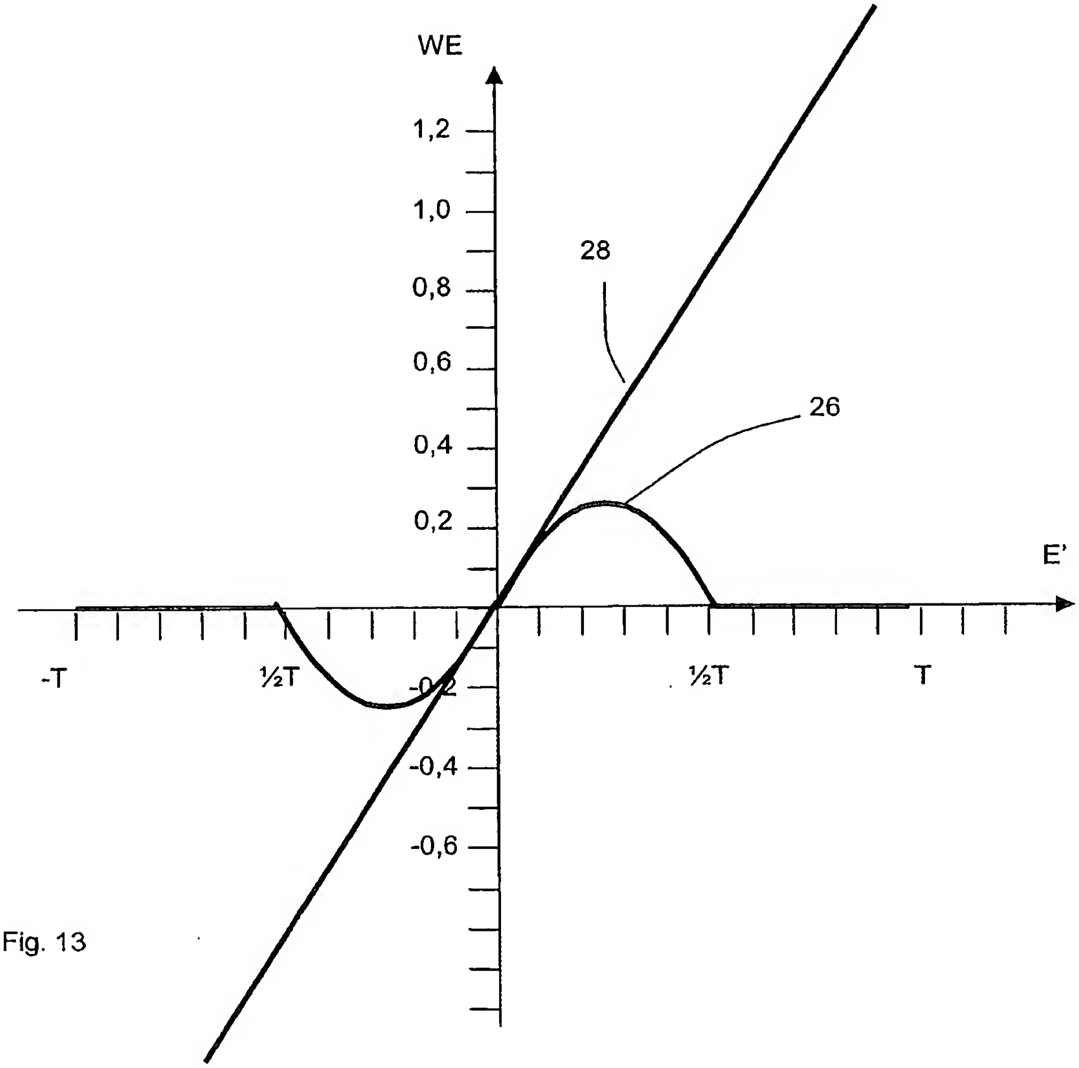

Fig. 13

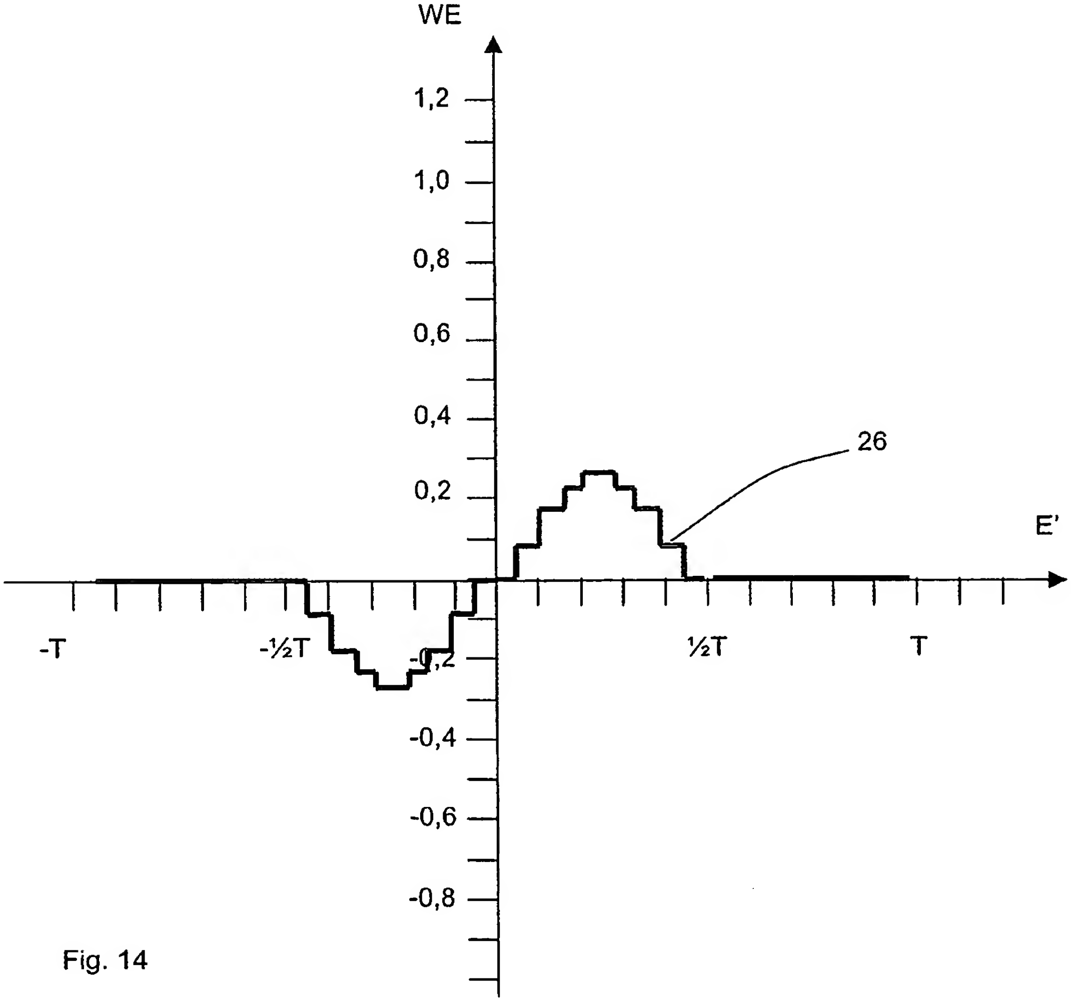

Fig. 14